

Appendix A

**PREVENTATIVE MAINTENANCE PLAN
MISCELLANEOUS
DUST COLLECTORS**

**Century Aluminum of Kentucky LLC
Hawesville, Kentucky**

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Attachments

Attachment A	Century Maintenance Work Order
Attachment B	Century Inspection Work Order
Attachment C	PM Compliance Summary Report
Attachment D	List of Dust Collectors
Attachment E	Excerpts for Title V Permit (Reserved)

1.0 Purpose

The purpose of this plan is to establish a system that ensures the continuing control capability of miscellaneous dust collectors in use at Century Aluminum. This plan has been developed for those collectors whose performance cannot be determined using approved EPA test methods.

2.0 Scope

This plan encompasses all departments, both in operations and maintenance, that are contained within the Century organizational structure. This plan covers the dust collectors listed in Attachment D of this document.

3.0 Associated Documents

- Plant Table of Contents
- Work Order Flow Diagram
- Computer Assisted Maintenance System (CAMS)
- Attachment A - Century Maintenance Work Order
- Attachment B - Century Inspection Work Order
- Attachment C - PM Compliance Summary Report
- Attachment D - List of Dust Collectors Subject to the Plant
- Attachment E - Excerpts from Title V Permit

4.0 Definitions/Abbreviations

- CAMS = Computer Assisted Maintenance System
- Maintenance = maint.
- Preventive Maintenance = PM
- Work Order = WO
- Original Equipment Manufacturer = OEM
- Inspection Work Order - Century Scheduled Inspection Work Order
- General Work Order - Century Maintenance Work Order
- Priority Preventive Maintenance - Critical PM
- Covered Process - Dust Collectors listed in Attachment D

5.0 Procedures

5.1 CAMS

- 5.1.1** CAMS produces inspection and maintenance work orders on a schedule determined by OEM requirements, Maintenance standards, Maintenance Technical, Engineering or Operations personnel.
- 5.1.2** Each week the system schedules and prints inspection and maintenance work orders which are distributed to the respective areas of responsibility. Each work order has an attached instruction sheet.
- 5.1.3** Maintenance work orders and associated inspections can be performed by outside contractors as well as internal operations and maintenance personnel
- 5.1.4** When the inspection and maintenance work order is completed, the individual performing the work will initial or place the his or her employee number on the required form along with any comments or remarks and return the form to the Maintenance Department. If further work is required, a general work order is issued.
- 5.1.5** When the inspection and maintenance work order is received by Maintenance, compliance with the established standards or non-compliance with the established standards are entered into the system.
- 5.1.6** At the end of the month, reports are issued and reminders are sent to each supervisor who has not returned issued work orders issued in the reporting month.
- 5.1.7** Reports detailing compliance or non-compliance with the established standards and procedures are issued to the Maintenance Supervisors.
- 5.1.8** The number of times an inspection or maintenance order is missed or a particular piece of equipment is traced and monitored. Maintenance Supervisors determine the course of action as necessary.
- 5.1.9** Work orders are classified in the following manner.
 - P - Priority
 - N - Non Priority
 - R - Reminder
- 5.1.10** All work orders related to lubrication of equipment are classified as priority.
- 5.1.11** Priority work orders with a frequency of greater than one month are reissued for those missed during the period.

5.2 General Work Orders

- 5.2.1** General work orders are originated in the department of which the equipment is located and forwarded to Maintenance.
- 5.2.2** Work orders shall be assigned to Maintenance Supervision and any necessary information shall be forwarded to maintenance or operations personnel.
- 5.2.3** When repairs are complete, the work order will be signed as being complete and returned to Maintenance to enter into the system.

6.0 Routine Maintenance and Inspection Miscellaneous Dust Collectors

6.1 Routine Maintenance

- 6.1.1** Routine Maintenance shall be conducted as per OEM or Century maintenance department procedures.
- 6.1.2** Maintenance completed shall be documented as per CAMS system requirements.

6.2 Inspections

- 6.2.1** Dust collector systems require routine inspections in order to determine proper operation. These inspections shall be conducted as part of normal routine maintenance schedule established by the CAMS.
- 6.2.2** Dust Collector inspections shall evaluate the following areas:
 - Examine the dust collector housing for dust buildup or leaks
 - Examine interior of the unit to determine the physical condition of the bags or cartridge filters
 - Check pressure drop across the unit if applicable
 - Examine the overall condition of the connecting ductwork, hoppers or transport lines
- 6.2.3** Proper operation of the fans and blowers associated with the dust collectors also needs to be determined. These inspections are to be conducted in conjunction with the dust collector inspections.

6.2.4 Fan and blower inspections shall include the following:

- Examine belts for wear, tension and alignment.
- Check bearings, seals and impellers if accessible.
- Check housing for leaks or damage.
- Make sure the bearing, pulleys etc. are properly lubricated.
- Examine mounts, dampers, expansion joints for wear and tear.

7.0 Corrective Actions

7.1 Visible Emissions

If at the time of an inspection, emissions are visible from the dust collector, maintenance will initiate steps to rectify the problem. These steps could include the following measures:

- Shutdown of the affected process.
- Isolation of the affected dust collector.
- Immediate repair of the affected unit.
- Other practices as deemed necessary per Century maintenance procedures.

7.2 Equipment Failure

If at the time of an inspection the dust collector is not operating or operating correctly, maintenance will initiate steps to rectify the problem.

7.3 Activities Outside Normal Maintenance

If at any time, visible emissions or equipment failure are observed, corrective action as per the facility maintenance systems will be initiated.

8.0 Reporting

Equipment not operating correctly or dust collectors of which there are visible emissions shall be reported to the Century Environmental Manager and noted in the CAMS.

9.0 Recordkeeping

Records related to maintenance and inspection of dust collectors will be maintained for a period of five (5) years.